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ABSTRACT

Trainers and adult educators often need to quickly locate quality information on the World Wide Web (WWW) and need assistance in searching for such information. A "search engine" is an application used to query existing information on the WWW. The three types of search engines are computer-generated indexes, directories, and meta search engines. Computer-generated indexes (or web-crawlers or spiders) seek sites that contain words that match search terms. Directories are lists of selected sites organized according to topic. A meta search engine searches other search engines. Two sites that provide up-to-date comprehensive information on search engines are Search Engine Showdown and Search Engine Watch. One tool in the WWW that can quickly help in narrowing the long list of potential search engines is Noodle Quest. Based on the results of research conducted by the author on five searches, HotBot and Google appear to be fairly good search tools to use when in a hurry to find a few relevant sites related to a given training topic. However, other large search engines such as Fast, iWon, and AltaVista, are not included in the experiment. Furthermore, new and more powerful search engines continue to be developed (Virtual Search Engines). (YLB)

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Abstract

Trainers and adult educators often had a need to quickly locate quality information on the World-Wide-Web. They are also in need of assistance in searching for such information. This article briefly defines and explains various types of search engines. Readers are given ways of quickly locating the best search engine for various occasions. Furthermore, the author reports the results of his own research regarding the effectiveness of selected search tools. Finally, a few web locations are revealed where adult educators can become experts on searching the web.

Just-In-Time Web Searches For Trainers & Adult Educators

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Hellen arrived home late from the office wondering "How in the world am I going to be able to pull together some handouts for an ergonomic training session by 9:00 a.m. in the morning?" An associate, Ruth, had originally been scheduled to do the training, but had been delayed in Hong Kong for an additional two weeks. Hellen have been chosen to fill in for her. To make matters worse, she had never spoken on the topic and the company has no in-house training materials on the subject.

Wayne, an adult educator at a local adult day care facility, is putting together a display on the USS Asheville. Bill, one of the participants at the center has a birthday Friday. He is a former crewmember of the USS Asheville who has fond memories of his days aboard the craft. Wayne would like to make Bill's birthday special by having a display and small group discussion about the ship. Unfortunately, Wayne has search the local library for information (especially pictures) on the USS Asheville and has come up empty handed.

In both of the above instances, Helen and Wayne decided to turn to the World-Wide-Web for the information they needed. Both were interested in finding good information on their topic in the shortest possible time. They were aware that World-Wide-Web contained mountains of information useful to trainers and adult educators. They were less certain about how to quickly find the information they needed. They knew that there was a place on the web called Yahoo! where a person could search for information, but they weren't sure if that was the best place for them to begin their search. They didn't know much about search engines. They wondered if there was any search tools particularly suited for trainers or adult educators.

Search Engines 101

A "search engine" is an application used to query existing information on the World-Wide-Web. The user types in key terms, clicks on a submit button, and a sorted list of matching results is presented. According to Media Metrix most popular search engines on the web include Yahoo, MSN, AOL, Lycos, and Go. As with most tools, search engines work best when they are used for the purpose for which they were originally intended and persons using them know how to use them. Generally speaking, there are three types of engines: computer-generated indexes, directories and meta search engines.

Often referred to as crawlers or spiders, computer-generated indexes (e.g., WebCrawler scar the web for terms relevant to a given search topic. Directories (e.g., Yahoo) are lists of selected sites organized according to topic. Some search sites are a combination of computer-generated indexes and directories. For example, Northern

Light, is a spider that uses folders you can search by subject, source description and type of document. The third type of search tool is the meta search engine. As the name implies, this search engine searches other search engines. Examples of such engines include Google, MetaCrawler and Dogpile. One meta search engine, Ask Jeeves allows users to enter queries in the form of a question.

There are a number of sites providing up-to-date comprehensive information on search engines. Two such sites include Search Engine Showdown at http://www.searchengineshowdown.com/ and Search Engine Watch at http://searchenginewatch.com/. Information available at these sites include the latest information on search engines, search engine reviews, search tutorials, recommended search strategies and sites, as well as search engine alerts. Information was taken from these sites to produce Table 1 below. The table lists some common information needs of trainers and recommended search tools.

While Education World (http://www.education-world.com/) is recognized by many search engine experts as the best search engine site for educators, no one best site is given for trainers or adult educators. Finding the right search engine for a given search can be a daunting and very time consuming task. However, there are tools on the web that can quickly help in narrowing the long list of potential search engines. One such tool is Noodle Quest at http://www.noodletools.com/noodlequest/main.php3. The process is easy and very quick. The information seeker completes a short form, clicks a button, and Noodle Quest presents a list of the best search engines for a search. Over time two search engine features tend to influence a persons choice of a "favorite" engine. One is ease of use: it should allow a person to customize searches without offering so many options that using it is confusing. Secondly, a good search engine should be accurate: if properly configured, it will return a reasonable quantity of fairly precise results.

A Little Test Of Selected Search Engines

As a trainer this author has frequently used such search engines as AltaVista, Google, Go, Northern Light, and HotBot but didn't really know what site produced the "best results." Hence, a little experiment to see which site produced the best results on selected training topics. A total of seventy-five searches were conducted. Five searches were performed on 15 training related topics using various search engines (see Table 2 for results). The first 10 results in the inquiry were evaluated as to the site's relevance to the searched topic. No advanced search features were employed. The results appear in Table 2 in terms of the number of relevant sites appearing in the first 10 items listed in the search results. With 34 and 33 relevant sites appearing in the first 10-site results list, HotBot and Google outperformed the other three search engines. None of the search engines had relevant sites in the first 10 results with respect to On-The-Job Training and cross training.

HotBot has been one of the largest of the Web search engines, although in 1999 it apparently shrunk. It uses the Inktomi database. The basic search screen only shows a few options, but by choosing the Advanced Search Options button, the full range of

Table 1 Recommended Search Tools For Trainers

Information Need	Recommended Search Tool
Wanting a biography on a famous person.	The Biographical Dictionary
Wanting a calculator.	Calculators Online Center
Wanting a person's address or phone number.	Bigfoot and InfoSpace
Wanting a person's email address.	World Email Directory and MESA
Wanting a person's Web site address.	Ahoy!
Wanting an online dictionary.	One-Look Dictionaries
Wanting an online thesaurus.	Visual Thesaurus
Wanting an overview of a topic.	Looksmart
Wanting clip art for a web pages.	About.com Guide Bobbie Peachey's Web Clip Art
Wanting encyclopedia type information.	Concise Columbia Electronic Encyclopedia, Third Edition and .Information, Please Almanac
Wanting famous quotations.	Project Bartleby,
Wanting information on a topic containing rare or uncommon words.	AltaVista
Wanting multimedia files.	Scour.Net
Wanting only quality links that have been evaluated by experts.	About.com
Wanting photographs.	Corbis
Wanting some general images.	WebSEEk'
Wanting statistical information.	Statistical Resources on the Web
Wanting the answer to a simple question.	Ask Jeeves
Wanting the most comprehensive results on a given topic.	Dogpile and Metacrawler
Wanting to locate the most popular Web sites on a given subject.	HotBot,
Wanting to search for a short phrase.	Infoseek

search features is displayed. Some of the reported strength and weaknesses of HotBot appear in Figure 1 (Search Engine Showdown).

Table 2 Search Ratio For Selected Training Topics Using Five Search Engines

Search Topics	Search Tools				
	AltaVista	Google	InfoSeek	Northern Light	HotBot
Training and Development	3	4	3	2	3
Training Needs Assessment	1	2	1	0	2
Transfer of Learning	5	5	1	6	4
On-The-Job Training	0	0	0	0	0
Cross Training	0	0	0	0	0
Career Development	0	4	2	3	2
Employee Orientation	0	1	0	1	2
Outplacement	0	0	2	1	0
Succession Planning	0	3	5	3	4
Work At Home	0	0	1	0	0
Organization Development	2	3	0	2	2
Learning Organization	4	5	2	3	6
Change Agent	0	0	2	2	2
Strategic Planning	0	3	0	0	5
Action Research	3	3	3	3	2
Total Relevant Results	18	33	22	26	34

Figure 1 HotBot Strengths & Weaknesses

Strengths

- Advanced searching capabilities
- Page depth limit

Weaknesses

- Clustering of results for all hits
- Link searches must be exact
- Database size has shrunk

Google is one of the newer Web search engines (Media Metrix Search Engine Ratings). It was in Feb. of 1999 that Google moved from its Alpha to Beta version. Officially opening for business in Sept. 21, it has made its mark for its relevance ranking based on link analysis. It introduced phrase searching and the - for NOT, but for sometime had rather limited search features and no OR operation. This past June Google

announced a database of over 560 million pages. Figure 2 lists some of its strength and weaknesses (Search Engine Showdown).

Figure 2 Goofle Strengths & Weaknesses

Strengths

- Size: It is now one of the largest
- Relevance based on sites' linkages and authority
- Cached archive
- It can search most stop words

Weaknesses

- Limited search features: no nesting, no truncation, does not support full Boolean
- Site clustering is difficult to turn off
- Link searches must be exact

Conclusion

A search for a more perfect search engine for trainers may prove as illusive as searching for information on that all-important topic you must become an "expert" on within the next 24 hours. Based on the results of research conducted by the author on five search HotBot and Google appear to be fairly good search tools to use when in a hurry to fine a few relevant sites related to a given training topic. However, other large search engines (Worldwide Web Search Engines) engines like Fast, iWon, and AltaVista were not included in the experiment. Furthermore, new and more powerful search engines continue to be developed (Virtual Search Engines). Perhaps in time a new search engine will be developed to meet the "just-in-time information needs of trainers and adult educators. In the meantime, "Happy Searching."

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